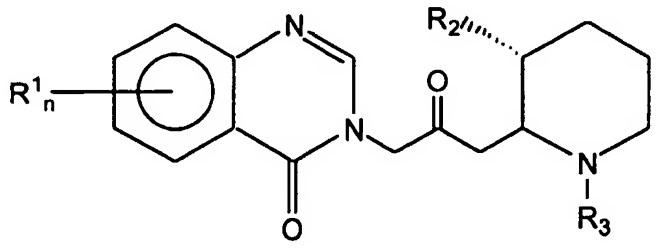
CLAIMS:

1. A method for improving the effectiveness of an anti-tumor treatment comprising the step of co-administering to a subject in need thereof a pharmaceutical composition comprising as an active ingredient a quinazolinone derivative compound having the general formula I:



wherein: n=1-2

R_1 at each occurrence is independently selected from the group consisting of hydrogen, halogen, nitro, benzo, lower alkyl, phenyl and lower alkoxy;

R_2 is a member of the group consisting of hydroxy, acetoxy and lower alkoxy;

R_3 is a member of the group consisting of hydrogen and lower alkenoxy-carbonyl; or

pharmaceutically acceptable salts thereof,

and at least one additional anti tumor treatment.

2. The method according to claim 1 wherein the subject is human.

3. The method according to claim 1 wherein the administration of the quinazolinone composition is prior to the administration of the at least one additional anti-tumor treatment.

4. The method according to claim 1 wherein the administration of the quinazolinone composition is substantially at the same time as the administration of the at least one additional anti-tumor treatment.

5. The method according to claim 4 wherein the co-administration is in a single pharmaceutical composition.

6. The method according to claim 4 wherein the co-administration is in separate pharmaceutical compositions.

7. The method according to any one of claims 1-4 wherein the anti tumor treatment is radiation therapy.

8. The method according to any one of claims 1-6 wherein the anti tumor treatment is chemotherapy.

9. The method according to any one of claims 1-6 wherein the anti tumor treatment is selected from the group consisting of immunotherapy, hormonal therapy and genetic therapy.

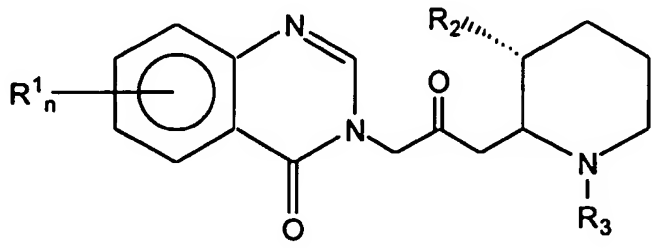
10. The method according to claim 1 wherein the improvement in effectiveness is achieved by enhancement of cellular sensitivity to the anti tumor treatment.

11. The method according to any one of claims 1-10 wherein the compound of formula I is halofuginone or a pharmaceutically acceptable salt, solvent or hydrate thereof.

12. The method according to claim 8, wherein the additional agent used for chemotherapy is selected from the group consisting of topoisomerase inhibitors, spindle poison vincas: vinblastine, vincristine, vinorelbine (taxol), paclitaxel, docetaxel; alkylating agents: mechlorethamine, chlorambucil, cyclophosphamide, melphalan, ifosfamide; methotrexate; 6-mercaptopurine; 5-fluorouracil, cytarabine, gemcitabin; podophyllotoxins: etoposide, irinotecan,

topotecan, dacarbazin; antibiotics: doxorubicin (adriamycin), bleomycin, mitomycin; nitrosoureas: carmustine (BCNU), lomustine, epirubicin, idarubicin, daunorubicin; inorganic ions: cisplatin, carboplatin; interferon, asparaginase; hormones: tamoxifen, leuprolide, flutamide, megestrol acetate.

13. A combined pharmaceutical composition comprising as an active ingredient a quinazolinone derivative compound having the general formula I:



wherein: n=1-2

R_1 at each occurrence is independently selected from the group consisting of hydrogen, halogen, nitro, benzo, lower alkyl, phenyl and lower alkoxy;

R_2 is a member of the group consisting of hydroxy, acetoxy and lower alkoxy;

R_3 is a member of the group consisting of hydrogen and lower alkenoxy-carbonyl; or

pharmaceutically acceptable salts thereof, and at least one pharmaceutically acceptable carrier or diluents;

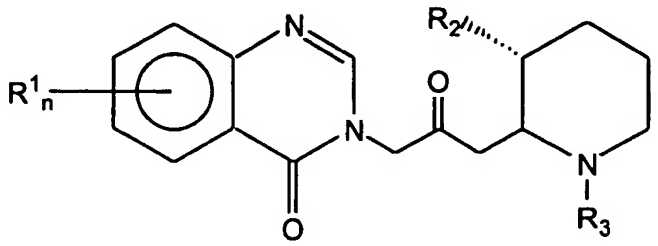
further comprising at least one additional anti tumor agent.

14. The pharmaceutical composition according to claims 13 wherein the compound of formula I is halofuginone or a pharmaceutically acceptable salt, solvent or hydrate thereof.

15. The pharmaceutical composition according to claim 13 wherein the anti tumor agent is a chemotherapeutic agent.

16. The pharmaceutical composition according to claims 15, wherein the chemotherapeutic agent is selected from the group consisting of topoisomerase inhibitors, spindle poison vincas: vinblastine, vincristine, vinorelbine (taxol), paclitaxel, docetaxel; alkylating agents: mechlorethamine, chlorambucil, cyclophosphamide, melphalan, ifosfamide; methotrexate; 6-mercaptopurine; 5-fluorouracil, cytarabine, gemcitabin; podophyllotoxins: etoposide, irinotecan, topotecan, dacarbazin; antibiotics: doxorubicin (adriamycin), bleomycin, mitomycin; nitrosoureas: carmustine (BCNU), lomustine, epirubicin, idarubicin, daunorubicin; inorganic ions: cisplatin, carboplatin; interferon, asparaginase; hormones: tamoxifen, leuprolide, flutamide, megestrol acetate.

17. Use of a quinazolinone derivative compound having the general formula I:



wherein: n=1-2

R_1 at each occurrence is independently selected from the group consisting of the hydrogen, halogen, nitro, benzo, lower alkyl, phenyl and lower alkoxy;

R_2 is a member of the group consisting of hydroxy, acetoxy and lower alkoxy;

R_3 is a member of the group consisting of hydrogen and lower alkenoxy-carbonyl; or

pharmaceutically acceptable salts thereof,

in the preparation of a medicament for treating a tumor in combination therapy with at least one additional anti tumor treatment, thereby improving the effectiveness of the anti tumor treatment.

18. Use according to claim 17, wherein the additional anti tumor treatment is radiation therapy.

19. Use according to claim 17, wherein the additional anti tumor treatment is chemotherapy.

20. Use according to claim 17, wherein the additional anti tumor treatment is selected from the group consisting of immunotherapy, hormonal therapy and genetic therapy.

21. Use according to claim 17, wherein the improvement is achieved by enhancement of cellular sensitivity to the anti tumor treatment.

22. Use according to claim 17 wherein the compound of formula I is halofuginone or a pharmaceutically acceptable salt, solvent or hydrate thereof.

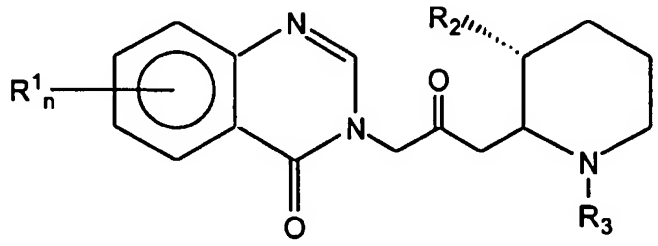
23. Use according to claim 19 wherein the chemotherapeutic agent is selected from the group consisting of topoisomerase inhibitors, spindle poison vincas: vinblastine, vincristine, vinorelbine (taxol), paclitaxel, docetaxel; alkylating agents: mechlorethamine, chlorambucil, cyclophosphamide, melphalan, ifosfamide; methotrexate; 6-mercaptopurine; 5-fluorouracil, cytarabine, gemcitabin; podophyllotoxins: etoposide, irinotecan, topotecan, dacarbazin; antibiotics: doxorubicin (adriamycin), bleomycin, mitomycin; nitrosoureas: carmustine (BCNU), lomustine, epirubicin, idarubicin, daunorubicin; inorganic ions: cisplatin, carboplatin; interferon, asparaginase; hormones: tamoxifen, leuprolide, flutamide, megestrol acetate.

24. The pharmaceutical composition of any one of claims 13-16 formulated in a form suitable for administration of the composition orally or parenterally.

25. The pharmaceutical composition according to claims 24 wherein the formulation for parenteral administration is selected from a dosage form suitable for intravenous injections, intravenous infusion; intradermal, intralesional, intramuscular, and subcutaneous injections or depots; for administration parenterally by means other than injection, laparascopically, intravesicularly, or intralesionally.

26. The pharmaceutical composition according to claim 24 formulated for oral administration in a form selected from a powder, granules, suspensions or solutions in water or non aqueous media, sachets, capsules or tablets.

27. A method for alleviating or preventing the damage induced by radiation therapy comprising the step of administering to a subject undergoing radiation therapy a pharmaceutical composition comprising as an active ingredient a quinazolinone derivative compound having the formula I:



wherein: n=1-2

R_1 at each occurrence is independently a member of the group consisting of hydrogen, halogen, nitro, benzo, lower alkyl, phenyl and lower alkoxy;

R_2 is a member of the group consisting of hydroxy, acetoxy and lower alkoxy;

R_3 is a member of the group consisting of hydrogen and lower alkenoxy-carbonyl; or

pharmaceutically acceptable salts thereof,

further comprising a pharmaceutically acceptable carrier.

28. The method according to claim 27 wherein the compound according to formula I is halofuginone a pharmaceutically acceptable salt, solvent or hydrate thereof.

29. The method according to claim 27 wherein the administration is prior to the administration of radiation therapy.